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**RAW SEQUENCE LISTING**
PATENT APPLICATION: **US/09/843,221A**

DATE: 03/13/2002 P.9
TIME: 11:48:58

Input Set : **A:\EP.txt**
Output Set: **N:\CRF3\03132002\I843221A.raw**

```
  3 <110> APPLICANT: KOSTENUIK, PAUL
  4        LIU, CHUAN-FA
  5        LACEY, DAVID LEE
  7 <120> TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND
PARATHYROID HORMONE-
  8        RELATED PROTEIN
 10 <130> FILE REFERENCE: A-665B
 12 <140> CURRENT APPLICATION NUMBER: 09/843,221A
 13 <141> CURRENT FILING DATE: 2001-04-26
 15 <150> PRIOR APPLICATION NUMBER: 60/266,673
 16 <151> PRIOR FILING DATE: 2001-02-06
 18 <150> PRIOR APPLICATION NUMBER: 60/214,860
 19 <151> PRIOR FILING DATE: 2000-06-28
 21 <150> PRIOR APPLICATION NUMBER: 60/200,053
 22 <151> PRIOR FILING DATE: 2000-04-27
 24 <160> NUMBER OF SEQ ID NOS: 170
 26 <170> SOFTWARE: PatentIn version 3.1
 28 <210> SEQ ID NO: 1
 29 <211> LENGTH: 684
 30 <212> TYPE: DNA
 31 <213> ORGANISM: Homo sapiens
 33 <220> FEATURE:
 34 <221> NAME/KEY: CDS
 35 <222> LOCATION: (1)..(684)
 36 <223> OTHER INFORMATION:
 39 <400> SEQUENCE: 1
 40 atg gac aaa act cac aca tgt cca cct tgt cca gct ccg gaa ctc ctg      48
 41 Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
 42 1               5                  10                  15
 44 ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc      96
 45 Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 46              20                  25                  30
 48 atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac gtg agc     144
 49 Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 50              35                  40                  45
 52 cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag     192
 53 His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 54       50                  55                  60
 56 gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac agc acg     240
 57 Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 58 65                  70                  75                  80
 60 tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat     288
 61 Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 62              85                  90                  95
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```
64 ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc    336
65 Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
66          100              105              110
68 atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag    384
69 Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
70          115              120              125
72 gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag gtc    432
73 Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
74          130              135              140
76 agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg    480
77 Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
78 145              150              155              160
80 gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acg cct    528
81 Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
82              165              170              175
84 ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc tac agc aag ctc acc    576
85 Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
86          180              185              190
88 gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg    624
89 Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
90          195              200              205
92 atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg    672
93 Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
94     210              215              220
96 tct ccg ggt aaa    684
97 Ser Pro Gly Lys
98 225
101 <210> SEQ ID NO: 2
102 <211> LENGTH: 228
103 <212> TYPE: PRT
104 <213> ORGANISM: Homo sapiens
106 <400> SEQUENCE: 2
108 Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
109 1           5              10              15
112 Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
113          20              25              30
116 Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
117          35              40              45
120 His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
121     50              55              60
124 Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
125 65              70              75              80
128 Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
129              85              90              95
132 Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
133          100              105              110
136 Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
137          115              120              125
140 Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
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RAW SEQUENCE LISTING       DATE: 03/13/2002
PATENT APPLICATION:   US/09/843,221A      TIME: 11:48:59

Input Set : A:\EP.txt
Output Set: N:\CRF3\03132002\I843221A.raw

```
141      130                    135                    140
144 Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
145 145                    150                    155                    160
148 Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
149                    165                    170                    175
152 Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
153                    180                    185                    190
156 Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
157                    195                    200                    205
160 Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
161      210                    215                    220
164 Ser Pro Gly Lys
165 225
168 <210> SEQ ID NO: 3
169 <211> LENGTH: 21
170 <212> TYPE: PRT
171 <213> ORGANISM: Artificial Sequence
173 <220> FEATURE:
174 <223> OTHER INFORMATION: PTH/PTHrP
176 <220> FEATURE:
177 <221> NAME/KEY: misc_feature
178 <222> LOCATION: (1 )..(1)
179 <223> OTHER INFORMATION: Optional attachment to X3X4X5X6X7, X2X3X4X5X6X7,
X1X2X3X4X5X6X7
180          , or YX1X2X3X4X5X6X7
183 <220> FEATURE:
184 <221> NAME/KEY: misc_feature
185 <222> LOCATION: (1)..(1)
186 <223> OTHER INFORMATION: X8 is an amino acid residue (nonfunctional residue
preferred, M o
187          r Nle most preferred)
190 <220> FEATURE:
191 <221> NAME/KEY: misc_feature
192 <222> LOCATION: (3)..(3)
193 <223> OTHER INFORMATION: X10 is an amino acid residue (an acidic or hydrophilic
residue pr
194          eferred, N or D most preferred)
197 <220> FEATURE:
198 <221> NAME/KEY: misc_feature
199 <222> LOCATION: (4)..(4)
200 <223> OTHER INFORMATION: X11 is an amino acid residue (nonfunctional or basic residue
pref
201          erred, L, R, or K most preferred)
204 <220> FEATURE:
205 <221> NAME/KEY: misc_feature
206 <222> LOCATION: (5)..(5)
207 <223> OTHER INFORMATION: X12 is an amino acid residue (nonfunctional or aromatic
residue p
208          referred, G, F, or W most preferred)
211 <220> FEATURE:
212 <221> NAME/KEY: misc_feature
213 <222> LOCATION: (7)..(7)
214 <223> OTHER INFORMATION: X14 is an amino acid residue (basic or hydrophilic residue
```

prefer
215          red, H or S most preferred)

RAW SEQUENCE LISTING                    DATE: 03/13/2002
PATENT APPLICATION:  US/09/843,221A     TIME: 11:48:59

Input Set : **A:\EP.txt**
Output Set: **N:\CRF3\03132002\I843221A.raw**

```
218 <220> FEATURE:
219 <221> NAME/KEY: misc_feature
220 <222> LOCATION: (8)..(8)
221 <223> OTHER INFORMATION: X15 is an amino acid residue (nonfunctional residue
preferred, wi
222       th L or I most preferred)
225 <220> FEATURE:
226 <221> NAME/KEY: misc_feature
227 <222> LOCATION: (9)..(9)
228 <223> OTHER INFORMATION: X16 is an amino acid residue (nonfunctional or hydrophilic
residu
229       e preferred, Q, N, S, or A most preferred)
232 <220> FEATURE:
233 <221> NAME/KEY: misc_feature
234 <222> LOCATION: (10)..(10)
235 <223> OTHER INFORMATION: X17 is an amino acid residue (acidic, hydrophilic, or
nonfunction
236       al residue preferred, S, D, or L most preferred)
239 <220> FEATURE:
240 <221> NAME/KEY: misc_feature
241 <222> LOCATION: (11)..(11)
242 <223> OTHER INFORMATION: X18 is an amino acid residue (nonfunctional residue
preferred,M,
243       L, V or Nle most preferred)
246 <220> FEATURE:
247 <221> NAME/KEY: misc_feature
248 <222> LOCATION: (12)..(12)
249 <223> OTHER INFORMATION: X19 is an amino acid residue (acidic or basic residue
preferred,
250       E or R most preferred)
253 <220> FEATURE:
254 <221> NAME/KEY: misc_feature
255 <222> LOCATION: (14)..(14)
256 <223> OTHER INFORMATION: X21 is an amino acid residue (nonfunctional residue or basic
res
257       idue preferred; V, M, R, or Nle most preferred)
260 <220> FEATURE:
261 <221> NAME/KEY: misc_feature
262 <222> LOCATION: (15)..(15)
263 <223> OTHER INFORMATION: X22 is an amino acid residue (hydrophilic, acidic, or
aromatic r
264       esidue preferred, E or F most preferred)
267 <220> FEATURE:
268 <221> NAME/KEY: misc_feature
269 <222> LOCATION: (16)..(16)
270 <223> OTHER INFORMATION: X23 is an aromatic or lipophilic residue (W or F preferred)
273 <220> FEATURE:
274 <221> NAME/KEY: misc_feature
275 <222> LOCATION: (17)..(17)
276 <223> OTHER INFORMATION: X24 is a lipophilic residue (L preferred)
279 <220> FEATURE:
280 <221> NAME/KEY: misc_feature
281 <222> LOCATION: (18)..(18)
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282 <223> OTHER INFORMATION: X25 is an amino acid residue (hydrophilic or basic residue prefe
283       rred, R or H most preferred)
286 <220> FEATURE:

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PATENT APPLICATION:  US/09/843,221A     TIME: 11:48:59

                Input Set : A:\EP.txt
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      287 <221> NAME/KEY: misc_feature
      288 <222> LOCATION: (19)..(19)
      289 <223> OTHER INFORMATION: X26 is an amino acid residue (hydrophilic or basic residue
prefe
      290        rred, K or H most preferred)
      293 <220> FEATURE:
      294 <221> NAME/KEY: misc_feature
      295 <222> LOCATION: (20)..(20)
      296 <223> OTHER INFORMATION: X27 is an amino acid residue (lipophilic, basic, or
nonfunctiona
      297        l residue preferred, K or L most preferred)
      300 <220> FEATURE:
      301 <221> NAME/KEY: misc_feature
      302 <222> LOCATION: (21)..(21)
      303 <223> OTHER INFORMATION: X28 is an amino acid residue (lipophilic or nonfunctional
residu
      304        e preferred, L or I most preferred)
      307 <220> FEATURE:
      308 <221> NAME/KEY: misc_feature
      309 <222> LOCATION: (21)..(21)
      310 <223> OTHER INFORMATION: Optional attachment to X29, X29X30, X29X30X31, X29X30
X31X32, X29
      311        X30X31X32X33, X29X30X31X32X33X34, X29X30X31X32X33X34X35, or X29X
      312        30X31X32X33X34X35X36
      315 <400> SEQUENCE: 3
W--> 317 Xaa His Xaa Xaa Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Xaa
      318 1               5                   10                  15
W--> 321 Xaa Xaa Xaa Xaa Xaa
      322              20
      325 <210> SEQ ID NO: 4
      326 <211> LENGTH: 22
      327 <212> TYPE: PRT
      328 <213> ORGANISM: Artificial Sequence
      330 <220> FEATURE:
      331 <223> OTHER INFORMATION: PTH/PTHrP
      333 <220> FEATURE:
      334 <221> NAME/KEY: misc_feature
      335 <222> LOCATION: (1)..(1)
      336 <223> OTHER INFORMATION: Optional attachment to J1J2J3J4J5J6, J2J3J4J5J6, J3J4J5J6
      339 <220> FEATURE:
      340 <221> NAME/KEY: misc_feature
      341 <222> LOCATION: (1)..(1)
      342 <223> OTHER INFORMATION: J7 is an amino acid residue (nonfunctional or aromatic
residue pr
      343        eferred, L or F most preferred)
      346 <220> FEATURE:
      347 <221> NAME/KEY: misc_feature
      348 <222> LOCATION: (2)..(2)
      349 <223> OTHER INFORMATION: J8 is an amino acid residue (nonfunctional residue
preferred, M o
      350        r Nle most preferred)
      353 <220> FEATURE:
      354 <221> NAME/KEY: misc_feature

355 <222> LOCATION: (6)..(6)
356 <223> OTHER INFORMATION: J12 is an amino acid residue (nonfunctional or aromatic
residue p

VERIFICATION SUMMARY                          DATE: 03/13/2002
PATENT APPLICATION:    US/09/843,221A         TIME: 11:49:00

                     Input Set : A:\EP.txt
                     Output Set: N:\CRF3\03132002\I843221A.raw

L:317 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:321 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:396 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:471 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5